



[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Part 54

[Docket No. PRM-54-6; NRC-2010-0291]

Filing a Renewed License Application

AGENCY: Nuclear Regulatory Commission.

ACTION: Petition for rulemaking; denial.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC or the Commission) is denying a petition for rulemaking (PRM) submitted by Raymond Shadis and Mary Lampert on behalf of Earth Day Commitment/Friends of the Coast, Beyond Nuclear, Seacoast Anti-Pollution League, C-10 Research and Education Foundation, Pilgrim Watch, New England Coalition, and joined in by New Hampshire State Representative Robin Reed (the petitioners). The petitioners requested that the NRC amend its regulations to accept a license renewal application (LRA) no sooner than 10 years before the expiration of the current license and to apply the revised rule to all LRAs for which the NRC has not issued a final safety evaluation report. The petitioners also requested a suspension of all new license renewal activity until the rulemaking is decided. After reviewing the petition, the NRC is denying the petition.

ADDRESSES: Please refer to Docket ID NRC-2010-0291 when contacting the NRC about the availability of information for this petition. You may access information related to this petition, which the NRC possesses and is publicly available, by any of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search on Docket ID NRC-2010-0291. Address questions about NRC dockets to Carol Gallagher, telephone: 301-492-3668; e-mail: Carol.Gallagher@nrc.gov.

- **The NRC's Agencywide Documents Access and Management System (ADAMS):** You may access publicly available documents online in the NRC Library at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search](#)." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to PDR.resource@nrc.gov. The ADAMS accession number for each document referenced in this notice (if that document is available in ADAMS) is provided the first time that a document is referenced. In addition, for the convenience of the reader, the ADAMS accession numbers are provided in a table in Section VI of this document, Availability of Documents.

- **The NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852.

FOR FURTHER INFORMATION CONTACT: Margaret Stambaugh, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone: 301-415-7069; e-mail: Margaret.Stambaugh@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Background

II. Modifying the 20-Year Application Timeframe

III. Ongoing and Future License Renewal Actions

A. Suspending All Ongoing and Future License Renewal Application Reviews

B. Applying a 10-Year Timeframe to All Ongoing and Future License Renewal Application Reviews

C. Petition Statements and Comments Referencing the Seabrook Nuclear Generating Station, Unit 1 (Seabrook Unit 1), License Renewal Application

IV. Public Comments on the Petition

V. Determination of Petition

VI. Availability of Documents

I. Background

The NRC received the petition on August 17, 2010, and assigned it Docket No. PRM-54-6. The NRC published a notice of receipt of the petition and request for public comment in the *Federal Register* (FR) on September 27, 2010 (75 FR 59158).

The petitioners stated that the NRC's current regulation in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 54.17(c) is unduly non-conservative with respect to its effect on the accuracy and completeness of LRAs, public participation, changing environmental considerations, aging analysis and management, regulatory follow-through, National Environmental Policy Act (NEPA) compliance, and changing regulations. The petitioners stated that they seek to restore some margin of conservatism by halving the lead time on LRAs from 20 to 10 years.

The petitioners raised the following seven issues in support of their request that the NRC revise 10 CFR 54.17(c):

1. The NRC conducted the rulemaking for 10 CFR 54.17, "Filing of Application," more than 15 years ago, and it could not have foreseen changes with respect to economic and regulatory shifts that have led to an industry-wide shift of focus from decommissioning to power

updates and license renewals. Such changes have affected the dynamics of license renewal aging analysis and management.

2. The rulemaking for 10 CFR 54.17(c) proceeded without sufficient consideration of the hearing rights of affected persons.

3. Under 10 CFR 54.17(c), licensees and the NRC can press to untenable lengths of time the ability to predict the following:

- a. aging deterioration of systems;
- b. alternative energy sources that may be more available in the future; and
- c. various other factors related to plant security and the environment.

4. Failure rates for systems, structures, and components (SSCs) are nonlinear, so licensees are unable to accurately predict aging-related failures.

5. A 20-year timeframe exacerbates the NRC staff's and licensees' difficulty in tracking license renewal commitments.

6. Regulatory changes over a 20-year period, from application to onset of the period of extended operation, will result in grandfathered non-compliance issues.

7. The 20-year timeframe allowed by 10 CFR 54.17(c) conflicts with NEPA. This conflict results in environmental reviews of unduly limited scope and unreasonably limits potential alternatives.

Section II, "Modifying the 20-Year Application Timeframe," of this document describes in detail each of the seven issues. Section II also documents the NRC's responses to these issues.

The petitioners also requested that the NRC suspend all ongoing reviews of LRAs and that it apply the 10-year timeframe requirement to all ongoing and future LRA reviews. In addition, the petitioners and some public comment letters provide statements related to the license renewal application for Seabrook, Unit 1. Section III, "Ongoing and Future License

Renewal Actions,” of this document contains the NRC’s responses to these requests and statements.

II. Modifying the 20-Year Application Timeframe

Issue 1

The petitioners stated that the NRC last updated 10 CFR 54.17 in 1995, before sweeping changes in NRC oversight and before economic and regulatory shifts that enabled unprecedented changes in ownership and an industry-wide shift of focus from anticipated plant decommissioning to power uprates and license renewals. The petitioners stated that the rulemaking cannot have contemplated how these changes have affected the dynamics of license renewal aging analysis and aging management planning over a period of 40 years (20 years of the current license, plus 20 years of the extended period of operation). The petitioners claimed that the rule is antiquated and obsolete and must be reconsidered.

The petitioners stated that, of 32 license renewals granted, none were filed 20 years in advance of license expiration and that there is only one exception among the 14 LRAs under consideration and filed in the last few years—Seabrook Unit 1. The petitioners stated that NextEra Seabrook Nuclear LLC (NextEra) has provided no credible justification for its very early filing of an LRA. The petitioners stated that the great majority of licensees have filed applications for license renewal within 10 years of the original license expiration without any apparent negative consequences. The petitioners believe that this experience is a clear demonstration that a lead time of more than 10 years is unnecessary and of little benefit. The petitioners argued that filing, reviewing, and granting LRAs more than 10 years in advance of the original license expiration can have negative consequences.

NRC Response to Issue 1

The NRC recognizes that it last revised 10 CFR part 54, “Requirements for renewal of operating licenses for nuclear power plants,” in 1995 but disagrees that the age of the rule negatively affects regulatory effectiveness or plant safety. The petitioners provided no evidence or analysis demonstrating that regulatory changes or corporate restructuring have negatively affected the NRC staff’s ability to review LRAs or the industry’s ability to manage aging-related degradation at nuclear power plants. Furthermore, the petitioners presented no evidence or analysis for the assertion that LRAs submitted more than 10 years before expiration have resulted in negative consequences.

In its 1991 Statements of Consideration for 10 CFR 54.17(c), the Commission considered the appropriate period for applicants to submit applications for license renewal (Power Plant License Renewal, Final Rule, 56 FR 64963; December 13, 1991). The NRC established the 20-year timeframe to balance the need to collect sufficient operating history data to support an LRA with the needs of a utility to plan for the replacement of retired nuclear power plants in the event of an unsuccessful LRA. The Statements of Consideration also discussed the NRC’s finding that the lead time for building new electric generation facilities (alternatives to the proposed action) is 10–14 years, depending on the technology. In addition, the Commission considered that the NRC staff review would add time to the process. Thus, the NRC found that a 20-year application timeframe provided a reasonable and flexible timeframe for licensees to perform informed business planning. The petitioners did not provide any reasoning to dispute this previous consideration by the Commission but instead introduced and relied on the assumption that a rule must be reconsidered because it is over 15 years old.

The petitioners cited Seabrook Unit 1 as the only case out of 32 license renewals where an applicant filed 20 years in advance of its license expiration. This statement is incorrect because, as of the date of the petition, nine reactor units were granted exemptions from

10 CFR 54.17(c), enabling the licensees to submit applications more than 20 years in advance of their license expiration. Similarly, the NRC disagrees with the petitioners' assertion that "the great majority of licensees have filed applications for license renewal within 10 years of the original license expiration," as most (43 of the 61) units with renewed licenses at the date of the petition, filed their applications earlier than 10 years before the original license expiration. Nevertheless, neither statement contradicted the NRC's original basis for its consideration in the rule.

Therefore, the arguments provided by the petitioners for this issue do not provide sufficient justification for the NRC to revise the rule. In particular, the petitioners did not present any new information that would contradict the Commission's previous considerations when it established the license renewal rule or demonstrate that sufficient reason exists to modify the current regulations.

Issue 2

The petitioners asserted that, by renewing the license of a nuclear power station 20 years in advance of the licensed extended period of operation, the NRC removes, to the distance of a full generation, the opportunity for an adjudicatory hearing. They contend that a future generation of affected residents, visitors, and commercial interests would be unable or unprepared to speak for themselves. The petitioners further stated that "10 CFR 54.17(c) introduces the question of whether the action proposed is obtaining the license or entering into an extended period of operation 20 years hence." They argue that "the safety and environmental ramifications; the physical impact on affected persons begins 20 years away." They contended that this renders the permission so far removed in time from the implementation as to provide an intellectual disconnect or, in effect, void legal notice.

NRC Response to Issue 2

The petitioners pointed out that renewing an application up to 20 years in advance means that some future residents, visitors, and commercial interests that relocate near the plant during the period of extended operation would not have had the opportunity to participate in the hearing process associated with the LRA review. However, the interests of those future affected persons would be sufficiently represented by those currently located in the area. Any impacts from plant operation on persons currently in the area of the plant are expected to be the same or representative of those impacts on persons who will be located near the plant in the future. It is also an untenable legal standard to provide a hearing opportunity for unknown future residents, visitors, and commercial interests, as it would delay the hearing process or deprive persons currently affected of a timely hearing opportunity. Further, the future residents, visitors, and commercial interests located near the plant may avail themselves of the petition process set forth in 10 CFR 2.206, "Request for action under this subpart," which allows for a request that an existing license be modified, suspended, or revoked. Future residents, visitors, and commercial interests can also raise generic issues by requesting modification of the NRC's regulations under 10 CFR 2.802, "Petition for rulemaking."

The petition statements in Issue 2 do not provide sufficient justification for the NRC to revise the rule.

Issue 3

The petitioners stated that 10 CFR 54.17(c) allows licensees and the NRC staff to press to untenable lengths of time the unproven ability to predict the aging and deterioration of SSCs. The petitioners also claimed that 10 CFR 54.17(c) promotes failure of the LRA to encompass the potential effects of an environment that is arguably changing at an unprecedented and unpredictable rate. As a result, the petitioners questioned whether a rise in ocean temperatures

in the future would eventually lead to additional impacts, such as an increase in species affected by the thermal discharge plume or cooling intake. The petitioners also pointed out that “more environmentally benevolent alternative energy sources” may be more available in the future (e.g., photovoltaic solar and wind power) but cannot be credibly projected over 20 years. In addition, the petitioners raised the future uncertainty of the global threat of terrorism and its impact on security and the availability of offsite storage for spent fuel and low-level radioactive waste. The petitioners noted that the predicted failure rates for complex systems tend to increase exponentially with respect to the length of time until the prediction matures.

NRC Response to Issue 3

Under Issue 3, the petitioners argued that the LRA fails to encompass the potential effects of a changing environment, and then raised several issues of concern stemming from the length of time allowed by 10 CFR 54.17(c). The examples range from aging degradation to environmental concerns to terrorism and security. The petitioners’ issues related to aging management are similar to those raised under Issue 4; therefore, the NRC will address this aspect of the petitioners’ concern in its response to that issue. Likewise, the petitioners’ environmental concerns as well as the broader concern of a changing environment are similar to the NEPA issues raised under Issue 7; the NRC will address the environmental questions in its response to that issue. This response to Issue 3 addresses the remaining questions related to future uncertainty related to acts of terrorism.

While security of the nuclear facilities the NRC regulates has always been a priority, the terrorist attack of September 11, 2001, brought heightened scrutiny and spurred more stringent physical security requirements. The NRC staff regularly inspects and enforces against these security requirements as part of its oversight role, regardless of a plant’s status with respect to license renewal. Moreover, acts of terrorism are not aging-related issues and are, therefore,

outside the scope of license renewal hearings. Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 and 3), CLI-04-36, 60 NRC 631, 638-40 (2004). Therefore, where the petitioners raised questions regarding the license renewal review's ability to encompass uncertainties associated with future threats and developments related to acts of terrorism, such concerns are addressed by separate NRC requirements for physical security (10 CFR Part 73) and are not related to the rules and regulations pertaining to license renewal under 10 CFR part 54.

The petitioners did not present new information in Issue 3 that would demonstrate that sufficient reason exists to modify the current regulations.

Issue 4

The petitioners stated that submitting an application for license renewal at midterm of the current license finds the licensee at a time in SSC service life when, in industry experience, few failures are observed and, generally, those that are observed are episodic or anomalous and cannot be readily plotted as a trend for predictive purposes. The period of increased failure rates due to design, manufacturing, and construction defects has passed and is irrelevant to aging management in the proposed extended period of operation. The petitioners stated that the anticipated end-of-design life and aging issues have barely begun to emerge. Therefore, little or no plant-specific information on how a given plant will age is available to be trended, provide lessons, or otherwise illuminate the path forward. The petitioners continued that it is generally observed that for many SSCs the information flow rates increase rapidly in the fourth quarter and toward the end of a license. They argued that this SSC reliability progression is well known and often illustrated in the so-called "Bath Tub Curve," and corrosion risk is a function of time. As an example, the petitioners contended that the Beaver Valley Power

Station containment issue provides an example of operating experience emerging at a late date in a way that affected license renewal.

Additionally, the petitioners included the example that Vermont Yankee Nuclear Power Station also provides a series of later-life structural failures. The petitioners stated that it is appropriate, from a regulatory audit standpoint, to wait until data on the applicable failure rate and observed aging phenomena are in hand before attempting time-limited aging analysis or aging management planning; less than 10; not less than 20 years in advance of operating license expiration.

NRC Response to Issue 4

The petitioners asserted that a plant with only 20 years of operating history will not have gathered sufficient plant-specific aging data to make an informed decision about license renewal. The Commission considered this issue in the 1991 rulemaking promulgating the license renewal rule. In the Statements of Consideration from 1991, the Commission stated that a minimum of 20 years provides a licensee with substantial amounts of information and would disclose any plant-specific concerns with regard to age-related degradation (56 FR 64963; December 13, 1991).

With respect to the petitioners' claim that the licensees and the NRC cannot prove the ability to predict the aging and deterioration of SSCs in the future, the Commission recognized this in its 1991 Statements of Consideration and acknowledged that the ongoing regulatory processes at the time did not fully address the safety issues of extended operation beyond the initial 40-year license term (56 FR 64965; December 13, 1991). Therefore, the Commission concluded that a formal review of the adverse effects of aging on a SSC's ability to perform its intended function would be needed at license renewal to ensure that operation during the period of the extended license would not be inimical to public health and safety. As such, the resulting

licensing basis for a nuclear power plant during the renewal term consists of the current licensing basis (CLB), as well as any additional obligations to monitor, manage, and correct the adverse effects of aging. In other words, the intent of license renewal is to actively manage aging effects with aging management programs rather than just predicting future deterioration.

The bathtub curve analogy made by the petitioners would only apply to a scenario where component failures could occur if no aging management programs were used. The petitioners do not provide convincing evidence or analysis to show that the bathtub curve phenomenon actually exists at nuclear power plants. Where the petitioners cited Beaver Valley and Vermont Yankee as two examples, neither example conclusively demonstrated how component failures were linked to the presence of a bath-tub trend, other than the fact that both plants happened to be in the later segments of their respective licenses. Nuclear power plant licensees are required to maintain aging management programs as part of their CLB following the license renewal review, to ensure that the effects of aging are adequately managed such that SSC's are able to perform their intended functions over time. The aging management programs, which are evaluated by the NRC, provide reasonable assurance that the effects of aging will be managed under the renewed license.

The petition statements in Issue 4 do not provide new information that would contradict positions taken by the Commission when it established the license renewal rule, nor do they demonstrate that sufficient reason exists to modify the current regulations.

Issue 5

The petitioners stated that the current rule exacerbates the difficulty the NRC staff and licensees have in following license renewal commitments. They argued that LRAs are often approved with the proviso that certain commitments be made and fulfilled, generally before the

period of extended operation begins. These commitments often include inspections, tests, and analyses, as well as the development of programs vital to safety and environmental protection. The petitioners stated that regulatory experience shows NRC staff turnover, as well as changes in oversight and licensee staff and ownership, will complicate and place increased emphasis on the proper handoff of unfulfilled licensee commitments.

NRC Response to Issue 5

The NRC agrees that it is important for licensees to fulfill commitments made in LRAs and for the NRC to verify that those commitments are met. Commitments are one part of the LRA review and approval process. A license renewal review can result in new license conditions and updates to final safety analysis reports (FSARs), as well as commitments. In those instances where the NRC staff makes a finding of reasonable assurance based on a commitment proposed by a licensee, the NRC staff elevates the commitment to a legal obligation, which is enforced in a license condition. Following the issuance of a renewed license, the NRC performs inspections, under License Renewal Inspection Procedure (IP) 71003, "Post-Approval Site Inspection for License Renewal," as part of its oversight process. One objective of the IP 71003 inspection is to review the licensee's implementation of aging management programs, license conditions, and commitments associated with the license renewal review under 10 CFR part 54. Generally, these inspections are coordinated by the NRC regional staff and take place just before plants enter the period of extended operation. Findings are documented in Inspection Reports following each inspection. In addition to IP 71003 inspections, regulatory commitments that have not been made legal obligations are subject to triennial audits by the NRC staff. Where the petitioners claimed that the current rule for license renewal complicates the conduct of these inspections or other processes to verify license renewal commitments, they do not provide any evidence to demonstrate their claim.

Therefore, the petitioners' statements in Issue 5 do not provide a sufficient justification for the Commission to grant the petition for rulemaking.

Issue 6

The petitioners stated that the 20 years that pass from an application to the onset of the extended operation will, based on regulatory history, certainly see an inordinate amount of applicable regulatory change, resulting in grandfathered non-compliance issues. The petitioners stated that current issues under consideration for treatment in the license renewal process include aging management for underground, buried, or inaccessible pipes that carry radionuclides and aging management for safety-related, low-voltage cables that are below-grade and not qualified for a wet environment.

NRC Response to Issue 6

The Commission addressed compliance with future regulatory changes during the period of license renewal in promulgating the initial rule (56 FR 64963; December 13, 1991). The Commission previously responded to a similar comment, stating that comments to the rule "incorrectly suggest that new information about plant systems and components as well as age-related degradation concerns discovered after the renewed license is issued would not be considered by the NRC or would not be factored into a plant's programs. The CLB of a plant will continue to evolve throughout the term of the renewed license to address the effects of age-related degradation as well as any other operational concern that arises. The licensee must continue to ensure that the plant is being operated safely and in conformance with its licensing basis. As regulations change over time, the current licensing basis is updated to the extent that the regulation is applicable to the plant. Thus, a regulatory change does not result in grandfathering non-compliance with applicable regulations. The NRC's regulatory oversight

activities will also assess any new information on age-related degradation or plant operation issues and take whatever regulatory action is appropriate for ensuring the protection of the public health and safety.” In addition, the petitioners do not further develop their case in explaining how the examples of underground, buried, or inaccessible piping and cables demonstrate their claim of non-compliance issues being grandfathered. In fact, the aging management for these SSCs are some examples of how ongoing operating experience informs the licensees’ aging management programs over time in order to ensure compliance with 10 CFR 54.21(a)(3). Such programs are expected to evolve as necessary to address new operating experience. In addition, regulatory oversight activities such as IP 71003 inspections also provide the means for the NRC staff to verify and assess the ongoing effectiveness of licensees’ aging management efforts.

The petitioners did not present new information in Issue 6 that would contradict positions taken by the Commission when it established the license renewal rule or demonstrate that sufficient reason exists to modify the current regulations.

Issue 7

The petitioners argued that the regulation conflicts with, circumvents, and frustrates the letter, spirit, object, and goals of NEPA. The petitioners stated that “NEPA provides at Section 1500.2, that the Federal agencies, ‘shall to the fullest extent possible: (e) Use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment.’” The petitioners stated that the “Act provides at Section 1501(b) that ‘NEPA procedures must insure [sic] that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to

implementing NEPA. Most important, NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail.”

The petitioners also presented arguments under Issue 3 related to environmental considerations that will be addressed here. These arguments include the potential availability of energy sources that may be more available in the future (e.g., photovoltaic solar and wind power) but cannot be credibly projected over 20 years, the failure of the LRA to encompass effects of a changing environment, the effect of a rise in ocean temperatures on species affected by a thermal discharge plume or cooling intake, the availability of offsite storage for spent fuel and low-level radioactive waste, and the status of threatened or endangered species.

NRC Response to Issue 7

The NRC disagrees that the regulation conflicts with, circumvents, or frustrates the intent of NEPA. Rather, the twin aims of NEPA do not conflict with the licensing authority granted under the Atomic Energy Act of 1954, as amended (AEA). Section 103(c) of the AEA states that “each [operating] license shall be issued for a specified period, as determined by the Commission, depending on the type of activity to be licensed, but not exceeding forty years, and may be renewed upon the expiration of such period.” Consistent with the AEA, the NRC’s license renewal regulation allows for a renewed license providing up to 40 years of operation (up to 20 years of the existing license plus 20 years of extended operation). As previously discussed in response to Issue 1, the Commission found that a 20-year application timeframe provided a reasonable and flexible period for licensees to perform informed business planning. The NRC fulfills its NEPA obligations and meets NEPA’s twin aims by examining the reasonably foreseeable impacts and alternatives to issuing a renewed license for a period of up to 40 years. The petitioners did not provide any reasoning to dispute that the renewed license period of up to 40 years was consistent with the AEA, nor did the petition provide information to show that if the

NRC, consistent with the AEA, issues a renewed license for up to 40 years, that the agency is, therefore, unable to meet NEPA's twin aims.

The petitioners also argued that the timing of LRAs affects the implementation of NEPA with regard to the consideration of alternatives. The NRC notes that the petitioners quoted the Council on Environmental Quality (CEQ) regulations in support of their arguments rather than NEPA, but neither the statute nor the CEQ regulations support their petition. The extent of the environmental review is not directly limited by the timing of the application submittal, nor does the NRC staff limit its analysis to the information provided in the environmental report.

However, the NRC does apply the rule of reason in conducting its environmental analysis under NEPA, which may limit the extent of the environmental analysis to only those environmental impacts and alternatives that are reasonably foreseeable. This means that, while the environmental review considers various impacts and alternatives, the NRC is not required to analyze every possible future or speculative development, particularly those that cannot be reasonably assessed to inform its decision-making process. For example, the NRC analyzes alternative energy sources, but is not required under NEPA to consider speculative technological advances in alternative energy sources, which may or may not be available at the time of extended operation. The NRC must complete its NEPA review before it issues a renewed license in order to inform the agency's decision on license renewal, and the agency meets the twin aims of NEPA by analyzing those alternatives that are reasonably foreseeable at the time that the renewed license is issued. The petitioners did not provide information showing that the rule precludes the NRC from considering reasonable alternatives within the licensing action timeframe.

With respect to assessing the potential future environmental impacts associated with the issuance of a renewed license, the NRC complies with the statutory requirements of NEPA through its consideration of impacts in the generic and supplemental environmental impact

statements (SEISs) for license renewal prepared in accordance with 10 CFR part 51, “Environmental protection regulations for domestic licensing and related regulatory functions.” As part of this environmental review process, the NRC evaluates the environmental impacts associated with operating a plant for an additional 20 years. This evaluation includes generic determination in its Generic Environmental Impact Statement for License Renewal (GEIS) of issues such as the future storage of spent fuel for the period of extended operation (see 10 CFR part 51, subpart A, Table B-1). The environmental review also addresses concerns such as those cited by the petitioners in Issue 3 related to the changing environment (e.g., rise in ocean temperatures on species affected by a thermal discharge plume or cooling intake), in addressing environmental impacts and alternatives that are reasonably foreseeable for each site. Furthermore, the petitioners did not provide new information to demonstrate that the changing environment would have a significant impact to affect the NRC’s environmental analysis.

The petitioners also raised a concern in Issue 3 related to the potential change in status of threatened or endangered species over the renewed license period; such changes are accounted for in the NRC’s ongoing consultations with other Federal agencies under the Endangered Species Act, which may result in imposing incidental take limits or monitoring for certain species, depending on the facility and its environment. To the extent that future developments or events may occur that require reinitiation of consultations, the NRC staff must consult with the relevant agency or agencies, regardless of whether the power plant has a renewed license.

Therefore, the change to license renewal regulations proposed by the petitioners would not affect the NRC’s response to events related to the Endangered Species Act.

In Issue 7, the petitioners stated that the rule “sets the [license renewal] application’s environmental review at a maximum of 20 years in advance of the impacts from the Federal

action.” Other parts of the petition made similar statements to imply that the actual “action” taken by the NRC is not going to occur until up to 20 years into the future. For clarification, the “proposed action” before the NRC for license renewal is the “issuance” of a new and superseding license that allows operations for up to 40 years (any remaining time on the initial license plus up to 20 years of extended operation), which is discussed further in response to Issue 2. Therefore, NEPA requires the NRC to perform and complete an environmental review to support the agency’s decision-making process with respect to issuance of the renewed license. As previously stated, a 40-year license is consistent with the AEA, and the NRC performs its NEPA analysis as part of the LRA review process. The petitioners did not provide new information that demonstrates that the NRC ought to perform its NEPA analysis at some time other than before it issues a renewed license.

Finally, in their arguments supporting Issue 7, the petitioners discussed the LRA submitted for Seabrook Unit 1. The NRC considers these issues as intended by the petitioners and commenter to be examples of a specific case for which the petitioners believe the rule is deficient. Section III.C, “Petition Statements and Comments Referencing the Seabrook Nuclear Generating Station, Unit 1 (Seabrook Unit 1), License Renewal Application,” of this document contains a detailed response to the Seabrook example.

Therefore, the petitioners’ arguments in Issue 7 do not demonstrate that sufficient reason exists to modify the current regulations.

III. Ongoing and Future License Renewal Actions

A. Suspending All Ongoing and Future License Renewal Application Reviews

The petitioners requested that, pending promulgation of a rule to revise 10 CFR 54.17(c), the NRC suspend all ongoing and future reviews of LRAs. The review of

LRAs is not a rulemaking issue and thus will not be addressed in this response to a petition submitted under 10 CFR 2.802. The FR notice of receipt for the petition stated that the NRC will address the request to suspend ongoing and future LRA reviews in a separate action.

Subsequently, the Commission denied the petitioners' request to suspend licensing actions; the Commission's denial can be found in ADAMS under Accession No. ML110250087.

B. Applying a 10-Year Timeframe to All Ongoing and Future License Renewal Application Reviews

Under the presumption that the NRC would revise 10 CFR 54.17(c) to 10 years, the petitioners requested that the NRC apply the 10-year requirement to the review of all ongoing and future LRAs. In this case, since the NRC is denying the petition, a 10-year requirement will not be applied to ongoing or future LRA reviews.

C. Petition Statements and Comments Referencing the Seabrook Nuclear Generating Station, Unit 1 (Seabrook Unit 1), License Renewal Application

The petitioners made multiple claims about license renewal that refer specifically to Seabrook Unit 1. One commenter raised similar claims. The NRC considers these issues as intended by the petitioners and commenter to be examples of a specific case for which the petitioners or commenter believe the rule is deficient. The petition and comment claims are similar to the claims the petitioners have submitted in a Seabrook adjudicatory proceeding, some of which the Atomic Safety and Licensing Board Panel admitted as contentions in that proceeding (including contentions related to alternatives the applicant considered in its environmental report).

To the extent that the petitioners' concerns relate specifically to Seabrook and the ongoing license renewal proceeding for that facility, the petitioners must pursue those issues

through the adjudicatory process. Furthermore, to the extent that the petitioners or commenter raised issues about a specific licensing proceeding, the issues and comments are considered only as examples of specific cases where the petitioners believe the current rule is unduly burdensome, deficient, or needs to be strengthened, in support of the petition to amend 10 CFR 54.17(c). Any other comments regarding a specific licensing proceeding are beyond the scope of a petition for rulemaking under 10 CFR 2.802 and are not considered further in the NRC's responses.

IV. Public Comments on the Petition

The NRC received six letters containing comments on the proposed rulemaking from Mark Strauch, Marie Mackowoliez, NextEra Energy, the Nuclear Energy Institute (NEI), Beyond Nuclear, and Strategic Teaming and Resource Sharing. The comments are grouped into eight comment categories. Individual comments and their grouping can be found in the Public Comment Matrix in ADAMS under Accession Number ML113540177. The NRC also received a letter from New Hampshire State Representative Robin Reed asking to be added as a petitioner. The NRC accepted the request from State Representative Reed and considers her to be a petitioner for the purposes of this response.

Comment Category 1: The NRC wrote 10 CFR 54.17 before economic and regulatory changes took place that would affect license renewal.

Comment 1.1

The petitioners stated that the NRC last updated the rulemaking for 10 CFR 54.17 in 1995, before changes in NRC oversight and economic and regulatory shifts that enabled

unprecedented changes in oversight and an industry-wide shift of focus from anticipated decommissioning to uprate and license renewal. The petitioners further stated that the rulemaking did not consider how such changes would affect aging analysis in LRA reviews or aging management planning. One commenter stated that the petition does not demonstrate that the rule is out of date and that the petitioners provided no supporting information for the statement. Two commenters stated that all applicants for license renewal must comply with 10 CFR part 50 and 10 CFR part 54, regardless of their corporate structure, and both commented that the petition did not include an analysis of how deregulation has affected aging management. One commenter added that the petitioners' attempts to provide new information that the NRC allegedly did not consider in its rulemaking fails to explain what that new information is and thus fails to demonstrate that sufficient reason exists to modify the current regulations. The commenter also stated that the petition fails to identify which changes in NRC oversight have affected aging management. Lastly, a commenter noted that 10 CFR part 54 considers the present context for a plant by requiring that each plant maintain its CLB.

NRC Response

The NRC recognizes that it last revised 10 CFR part 54 in 1995 but disagrees that the age of the rule negatively affects regulatory effectiveness or plant safety. The NRC agrees with the commenter that the petitioners provided no evidence or analysis to demonstrate that changes in regulatory structure or corporate structure of licensees have negatively affected aging analysis practices, aging management programs at plants, or the review of LRAs. This comment does not provide new information that would justify revising the rule.

Comment 1.2

A commenter stated that Seabrook Unit 1 is the only plant to file for license renewal 20 years in advance of the expiration of its operating license. The commenter also stated that, given the preponderance of license renewal review times for submittals and the agency approvals to date, no more than 10 years in advance is warranted for an application, which will significantly improve the quality and reliability of the agency's environmental impact statements (EISs) and the environmental reports upon which they rely, as required by NEPA. Finally, the commenter stated that the preponderance of the license renewal reviews and approvals conducted to date do not come close to requiring 10 to 20 years to complete and, therefore, the basis of the 20-year advance application date is invalid.

Two other commenters stated that Seabrook Unit 1 is not the first LRA filed 20 years in advance of the operating license expiration, and the plant is not an outlier in that respect. Both commenters also noted that the NRC has granted several LRAs at or near the 20-year timeframe, and the NRC also has granted exemptions to the 20-year requirement for special circumstances. One commenter further stated that the need for sufficient lead time for corporate decision-making, which underlies 10 CFR 54.17(c), applies whether companies opt for license renewal of their nuclear facilities or development of alternative sources of generating capacity. Completion of the business planning process requires decisions about future generating capacity to be made many years in advance.

NRC Response

The comment that Seabrook Unit 1 is the only plant to submit an application 20 years before expiration of its license is incorrect. As discussed in response to Issue 1, at the time of the petition, nine reactor units were granted exemptions from 10 CFR 54.17(c), enabling the licensees to submit applications more than 20 years in advance of their license expiration.

The data does not support the commenter's corresponding conclusion that no more than 10 years is warranted in which to submit an LRA. Thus, the NRC agrees with the other comments that the Seabrook Unit 1 LRA is not an outlier with respect to the timeframe in which the application was submitted.

A commenter also concluded that, since the NRC does not need 20 years to review an LRA, the basis for the 20-year application timeframe is invalid. The NRC acknowledges that 20 years is not necessary to perform its review of an LRA, as noted by a commenter. The NRC typically reviews an application in about 2 years, when no hearings are requested and when the review is appropriately supported by the applicant. Applications for which hearings are requested would take longer than 2 years. Rather, the NRC established the 20-year timeframe to balance the need to collect sufficient operating history data to support an LRA with a utility's need to plan for the replacement of retired nuclear power plants in the case of an unsuccessful LRA. In promulgating the 1991 license renewal rule, the Commission considered the appropriate length of time for applicants to submit applications for license renewal (56 FR 64963; December 13, 1991). The Statements of Consideration discuss the NRC finding that the lead time for building new electric generation facilities (alternatives to the proposed action) is 10–14 years, depending on the technology. The NRC found that a 20-year application timeframe provided a reasonable and flexible period for licensees to perform informed business planning. Therefore, the comment does not present new information that contradicts positions taken by the Commission when it established the license renewal rule.

The NRC response to comments under Comment Category 7 discusses the issues raised in the above comments related to environmental reviews and EISs.

Comment 1.3

The petition noted that Seabrook Unit 1 provided no credible justification for its very early filing of an LRA. A commenter stated that, to the extent petitioners argued that the LRA is deficient, their claims are inappropriate in a rulemaking petition and should be raised in the ongoing adjudicatory proceeding, in which several of the petitioners are currently participating and have already raised similar claims.

NRC Response

As is discussed further in Section III.C of this document, the petition and commenter statements that raised issues about a specific licensing proceeding are beyond the scope of a petition for rulemaking under 10 CFR 2.802 and are not considered in the NRC's responses in this document. However, it should be noted that the rule language in 10 CFR part 54 contains no requirement for an applicant to justify the year in which it applies to renew a license.

The comments related to Comment Category 1 do not present new information that would contradict positions taken by the Commission when it established the license renewal rule or demonstrate that sufficient reason exists to modify the current regulations.

Comment Category 2: The rulemaking for 10 CFR 54.17 proceeded without sufficient consideration of the hearing rights of affected persons.

Comment 2.1

The petitioners stated that, by renewing the license of a nuclear power station 20 years in advance of the licensed extended period of operation, the NRC removes, to the distance of a full generation, the opportunity for an adjudicatory hearing. They contended that a coming generation of affected residents, visitors, and commercial interests would be unable or unprepared to speak for themselves.

A commenter noted that, according to the petitioners' logic, with even a 5-year renewal application period, some people might be unable or unprepared to speak for themselves. The commenter also raised the point that the 20-year renewal application period provides a greater ability for people to decide not to relocate to the area near the plant.

A commenter provided the following statements related to the hearings on LRAs. Parties in NRC contested licensing hearings have the opportunity to raise issues after the LRA is submitted and during the months immediately following the NRC staff's completion of its licensing review and the issuance of the safety and environmental licensing documents. Because the licensing hearing focuses on the LRA itself, and not future generations, hearing issues are most effectively addressed while the LRA is before the agency. Contrary to the petitioners' assertion, there is no statutory, regulatory, or other rationale for delaying the hearing until the renewed license goes into effect. The NRC will address any safety issues relating to plant operation that arise after license renewal using the array of processes available from the Commission's regulations.

Two commenters noted that there is no fundamental right to participate in administrative adjudications. See *Citizens Awareness Network, Inc. v. NRC*, 391 F.3d 338, 354 (1st. Cir. 2004). One commenter also stated that the NRC issues initial operating licenses for 40-year periods. The combination of a 20-year license renewal period with the 18 years (at most) that would remain on an initial license following the NRC's review of an LRA is less than the 40-year period for operating licenses that the NRC grants under 10 CFR part 50 or 10 CFR part 52, "Licenses, certifications, and approvals for nuclear power plants." The petitioners' argument would mean that the NRC is incapable of providing a meaningful hearing opportunity on an initial operating license and that the AEA's provisions requiring both an opportunity for hearing and a 40-year term are fundamentally incompatible.

NRC Response

The NRC agrees that a longer renewal application period may increase the ability of people to choose not to relocate to the area near the plant but recognizes that this may not be true for some people. Regardless of the renewal application time period, it is impossible to identify all people who may relocate to the area during the entire term of the license renewal period. However, as discussed in Section II of this document in response to Issue 2 of the petition, current residents would sufficiently represent potential future area residents, visitors, and commercial interests. Further, potential future residents, visitors, and commercial interests have other regulatory mechanisms to protect their interests, including a petition for enforcement action under 10 CFR 2.206. Those future residents, visitors, and commercial interests can also raise generic issues by requesting modification of the NRC's regulations under 10 CFR 2.802.

The comments related to hearings are generally correct. The NRC's regulations in 10 CFR art 2, "Rules of practice for domestic licensing proceedings and issuance of orders," and 10 CFR part 54 provide the opportunity for a hearing and establish the requirements for intervention in a license renewal proceeding. Petitioners who meet the requirements of 10 CFR part 2 may intervene in a hearing, subject to the NRC's regulations.

The NRC agrees with the commenter who stated that the opportunity for a hearing focuses on the adequacy of the LRA itself, and those issues would be most effectively heard at the same time as the licensing decision, as provided by the NRC's regulations. The topic of hearing rights is discussed in response to Issue 2. As the commenter stated, the petitioners do not provide a rationale in support of their petition for why a hearing on the licensing issues would be more effective after license issuance but before the beginning of the extended operating period.

The commenter provided an example in which a plant may receive a 38-year renewed license. The commenter calculated 38 years by adding the 20-year renewal application period to the 20-year extended operation period and subtracting 2 years for NRC staff review of the renewal application. The commenter argued that the initial licensing period of 40 years and the approximately 38-year period for renewal both represent an NRC licensing decision for which the effects of operation would be realized over approximately a 40-year period. The period of the renewed license may be up to 40 years, as provided in 10 CFR 54.31, "Issuance of a renewed license." The commenter is correct that the petitioners do not recognize the similarity of the licensing periods of the two licensing actions and that the petition for rulemaking does not explain why the initial 40-year licensing period is appropriate while the renewal licensing period of up to 40 years would be inappropriate. The NRC agrees with the commenter's point that, similar to the AEA authorization to grant an initial license for 40 years, a 40-year renewal licensing period does not deprive future residents of a fundamental hearing right. Specifically, the petition does not provide any support to show why the AEA authorization for an initial 40-year operating license does not deprive potential future residents of a hearing right, but a license renewal period of up to 40 years does deprive potential future residents of a hearing right.

The comments related to Comment Category 2 do not provide a sufficient justification for the Commission to grant the petition for rulemaking.

Comment Category 3: The rule currently enables applications to avoid addressing changing environmental considerations.

Comment 3.1

The petitioners stated that 10 CFR 54.17(c) promotes failure of the LRA to encompass the potential effects of an environment that is arguably changing at an unprecedented rate. In addition, the petition raised issues about acts of terrorism, spent fuel storage, and the potential for failures in complex systems. A commenter questioned the impact that a potential rise in ocean temperatures could have on aquatic species affected by a reactor's thermal discharge plume or the cooling intake structure. Assuming such changes occur, the U.S. Environmental Protection Agency or designated State agency that permits operations under Sections 316(a) and (b) of the Clean Water Act could modify those permits to account for the change in conditions. Regardless of whether these permitting authorities amend the National Pollutant Discharge Elimination System (NPDES) permits, Section 511(c)(2) of the Clean Water Act precludes the NRC from either second-guessing the conclusions in NPDES permits or imposing its own effluent limitations. The commenter further observed that the Commission repeatedly stated that security issues are not among the aging-related questions that are relevant in a license renewal review. Moreover, the NRC's environmental review need not address acts of terrorism. The storage and disposal of low-level waste and the onsite storage of spent fuel generated during the additional 20 years of operation are Category 1 issues previously considered in the GEIS for which the NRC has already codified environmental impact findings in 10 CFR part 51, subpart A, appendix B, "Environmental effect of renewing the operating license of a nuclear power plant." In 10 CFR 51.23, "Temporary storage of spent fuel after cessation of reactor operation—generic determination of no significant environmental impact," the NRC generically addresses the eventual onsite or offsite storage of spent fuel following the permanent cessation of operations.

NRC Response

The commenter's statements generally align with the responses to Issues 3 and 7. As the commenter pointed out, a nuclear power plant's environment, including applicable regulations, may change over time for a variety of reasons. Not all of those potential changes are within the scope of a license renewal application review.

The comments related to Comment Category 3 do not provide a sufficient justification for the NRC to revise the rule.

Comment Category 4: The NRC and the licensees are unable to accurately predict aging-related failures.

Comment 4.1

The petition stated that 10 CFR 54.17(c) allows licensees and the NRC staff to press to untenable lengths of time the unproven ability to predict the aging and deterioration of SSCs. A commenter noted that the petitioners would have one believe that the NRC is powerless, once a renewal is docketed, to address any of the potential safety or aging-related issues enumerated in the petition.

A commenter stated that, to the extent these matters (the prediction of SSC aging) were not properly within the scope of license renewal, they were addressed as part of the licensees' ongoing operation (e.g., the corrective action and operating experience programs) and the NRC's continuing regulatory oversight process. The commenter further noted that the petitioners' argument is also belied by the stringency of the NRC's license renewal process.

A commenter noted that, in drafting 10 CFR part 54, the NRC did not expect licensees to predict all possible age-related failures before issuance of a renewed license. Instead, it requires licensees to have inspection and testing programs that would detect aging effects such that they could adequately manage those effects. A licensee's license renewal programs are detection and not prediction programs. The commenter concludes that this argument does not provide any grounds to reconsider the Commission's current regulations.

NRC Response

As part of the license renewal review, the NRC evaluates a licensee's aging management programs to ensure that each provides reasonable assurance that the licensee will adequately manage the effects of aging. The petitioners provided no support for the claim that aging management technology is inadequate. The NRC agrees that the comments made by two commenters are a correct description of the process of aging management and continuing regulatory oversight. Those SSCs within the scope of license renewal and that require aging management review have specific aging management programs designed to manage the effects of aging. Any SSCs outside the scope of license renewal but subject to 10 CFR part 50 are subject to regulatory oversight. Licensees are required to maintain their aging management programs until the end of their license. As previously stated, the NRC evaluates the aging management programs to determine if they provide reasonable assurance that the licensee will manage the effects of aging.

Comment 4.2

The petitioners stated that filing for license renewal at midterm of the current license finds the licensee at a time in SSC service life when, in industry experience, few failures are

observed and, generally, those that are observed are episodic or anomalous in nature and thus cannot be readily plotted as a trend for prediction purposes. The petition argued that the time of an elevated rate of failures caused by design, manufacturing, and construction defects has passed and is largely irrelevant to aging management in the proposed extended period of operation.

A commenter stated that the “bathtub curve” for component reliability trends does not apply to components that are subject to aging management programs. Rather, this curve applies when components have little or no maintenance or aging management activities applied. The commenter further stated that renewal applicants should be encouraged to perform the required aging management and environmental reviews as early as possible, since that would allow more time to evaluate and implement aging management programs for long-term operation. Rather than discourage early applications, it would make more sense to encourage such proactive efforts. Another commenter stated that license renewal applicants benefit not only from their own operating experience but from that of the entire industry.

Another commenter stated that petitioners argue that most aging effects increase rapidly in the fourth quarter and toward the end of the license and that licensees should be required to wait until these later-life structural failures have presented themselves before filing an LRA.

NRC Response

These comments relate to whether or not aging management programs can address the potential for failure rates at a nuclear power plant to exhibit a bathtub curve trend. The NRC agrees with the comment that a licensee benefits from industry-wide operating experience with respect to aging-related degradation. However, the NRC disagrees with the comment that it is appropriate to wait until the presentation of rapidly increasing aging effects at a plant before accepting an LRA. In the 1991 final rule, the Commission did “not agree that it is adequate to

wait to address aging concerns when they become apparent in plant operations.” The Commission found that waiting to take corrective action after a failure occurs does not adequately control risk (56 FR 64974; December 13, 1991). Furthermore, the NRC stated that “the licensee must continue to ensure that the plant is being operated safely and in conformance with its licensing basis.” As such, the NRC expects that the licensees’ aging management programs would continue to be informed over time by ongoing operating experience to address new issues. In its 1991 Statements of Consideration, the Commission also noted that the NRC’s “regulatory oversight activities will also assess any new information on age-related degradation or plant operation issues and take whatever regulatory action is appropriate for ensuring the protection of the public health and safety” (56 FR 64963; December 13, 1991).

Comment 4.3

The petitioners stated that it is appropriate, from a regulatory audit standpoint, to wait until applicable failure rate and observed aging phenomena data are in hand before attempting time-limited aging analysis or aging management planning: less than 10, not less than 20, years in advance of operating license expiration. A commenter stated that, to the extent the petition claimed that 20 years of plant operating experience is insufficient to provide a valid basis for renewal applications, the Commission has previously addressed and dismissed that argument in its 1991 final rule.

NRC Response

The NRC addressed this argument in the Statements of Consideration for the 1991 final rule. As the Commission stated, a minimum of 20 years provides a licensee with substantial amounts of information and would disclose any plant-specific concerns with regard to

age-related degradation. A nuclear power plant will undergo a significant number of fuel cycles over 20 years, and plant and utility personnel will have a substantial number of hours of operational experience with every SSC (56 FR 64963; December 13, 1991). The petitioners have not provided any new insights or analyses that would cause the Commission to change the rule.

The comments related to Comment Category 4 do not provide a sufficient justification for the NRC to revise the rule.

Comment Category 5: The current rule exacerbates the NRC staff's and licensee's difficulty in following license renewal commitments.

Comment 5.1

The petition stated that regulatory experience shows that NRC staff turnover, as well as changes in oversight and licensee staff and ownership, will at once complicate and place increased emphasis on the proper handoff of unfulfilled licensee commitments. A commenter stated that the petition does not account for the fact that 10 CFR part 54 requires license renewal commitments to be reflected in the Updated Final Safety Analysis Report (UFSAR). Also, the commitments are publicly available on the facility's NRC docket. The commenter noted that the petition failed to acknowledge that the NRC's established regulatory oversight process for nuclear power plants (and other NRC licensees) has been functioning effectively for decades, despite NRC staff turnover and changes in oversight and licensee staff and facility ownership. The commenter continued that certain NRC regulations and guidance provide various processes for ensuring that the licensee satisfies such commitments. Such processes include, but are not limited to, program development, testing, formalized commitment processes, and NRC inspections, all of which require significant recordkeeping of commitment

status. The commenter also stated that, during the term of the renewed license, the licensee continues to be subject to all NRC regulations in 10 CFR parts 2, 19, 20, 21, 26, 30, 40, 50, 51, 52, 54, 55, 70, 72, 73, and 100, and their appendices, as applicable to holders of operating licenses under 10 CFR part 50 or combined license holders under 10 CFR part 52.

Another commenter cited the petitioners' question about the NRC's ability to keep track of license renewal commitments that are more than 10 years old, blaming NRC staff turnover, changes in oversight, and potential new facility ownership. The commenter observed that the license renewal commitments are in the docketed and searchable UFSAR. The commenter continued that the petitioners do not explain why the NRC staff would encounter any difficulty keeping track of documented commitments in a licensee's UFSAR.

NRC Response

The topic of license renewal commitments is discussed in the response to Issue 5. The NRC acknowledges that it is important for licensees to fulfill commitments and obligations made in LRAs. The NRC also agrees that existing regulatory processes are in place to verify license renewal commitments, and that the petition does not explain why the NRC staff would encounter complications in doing so.

The comments related to Comment Category 5 do not provide a sufficient justification for the NRC to revise the rule.

Comment Category 6: A 20-year timeframe will result in grandfathered non-compliance issues.

Comment 6.1

The petition stated that the 20 years that pass from application to onset of the extended period of operation will, based on regulatory history, certainly see an inordinate amount of applicable regulatory change, resulting in grandfathered non-compliance issues. A commenter stated that the Commission considered and dismissed this very concern (regarding non-compliance with future changes in regulations) in promulgating the original license renewal rules. The commenter further stated that, from the outset, the license renewal process has emphasized that, for renewal licensees (as well for reactor licensees that do not seek a renewed license), the NRC will consider new information and impose new requirements as appropriate, and more recent Commission pronouncements confirm that this position has not changed.

The commenter concluded that, as a matter of policy, the Commission was clearly correct in determining that licensees must address existing issues at an operating nuclear facility under the current license instead of postponing the matter until the license renewal period. Obviously, the resolution of any current safety concerns should not be deferred. By the same token, the resolution of current issues may have little or no relevance to safety during the period of extended operation, because those issues may be obviated by future changes in circumstances or regulatory requirements. As the Commission has held, it is not appropriate for the NRC or parties to spend valuable resources litigating allegations of current deficiencies in a proceeding that is directed to future-oriented issues. Additionally, the NRC's license renewal process includes a "safety valve" allowing consideration of additional issues if appropriate (see 10 CFR 2.335, "Consideration of Commission rules and regulations in adjudicatory proceedings").

Finally, the commenter argued that the NRC's license renewal rules represent an informed, reasoned, and permissible exercise of the statutory authority under the AEA. The Commission established its renewal regulations after extensive deliberations, based on its

determination that existing regulatory processes are adequate to ensure that the licensing bases of currently operating nuclear power plants provide and maintain an adequate level of safety. The license renewal rules further reflect the NRC's considered policy judgments that 1) issues relevant to both current operation and extended operation during the license renewal period should be addressed when they arise, not postponed until a license renewal decision (56 FR 64946; December 13, 1991); and 2) duplicating the Commission's ongoing regulatory reviews in a license renewal proceeding would waste NRC resources, which are better focused on aging management concerns.

Another commenter stated that the Commission has explained that it expects licensees and license renewal applicants to adjust their aging management programs to reflect lessons learned in the future through individual and industry-wide experiences. The Commission has described the license renewal program as a living program that continues to evolve. If new insights or changes emerge over time, the NRC staff will require, as appropriate, any modifications to SSCs that are necessary to ensure adequate protection of public health and safety or to bring the facility into compliance with a license or the rules and orders of the Commission. The commenter further stated that the NRC will act to ensure adequate protection, regardless of when an LRA is submitted. The Commission also considered this same argument nearly 20 years ago in its 1991 final rule.

NRC Response

The prior comments largely summarize the Commission's position previously stated in relation to the promulgation of the initial rule. The NRC generally agrees with the comment that it considered the issue in the prior rulemaking for this regulation. The NRC also agrees with the comment regarding expectations that licensee's aging management programs should be

informed, and enhanced when necessary, based on the ongoing review of both plant-specific and industry operating experience.

The comments related to Comment Category 6 do not provide a justification for the NRC to revise the rule.

Comment Category 7: The 20-year timeframe allowed by 10 CFR 54.17(c) conflicts with NEPA.

Comment 7.1

The petitioners argued that an LRA for a nuclear power plant submitted 20 years in advance of the expiration of its current operating license cannot, to the fullest extent possible, accurately and reliably evaluate nor reasonably foresee the alternatives to the proposed action, as required by the CEQ regulations. They contended that the premature information constitutes nothing more than amassing needless detail that, in the case of a nuclear power plant relicensing action, establishes a bias towards a premature relicensing decision.

A commenter stated that, by allowing applications 20 years in advance of the licensing action, the NRC is rigging the purpose and need in violation of NEPA, citing circuit court comments. The commenter asserted that NEPA is to be interpreted to guard against and prevent such misinformed and misleading actions. The commenter also argued that the existence of a viable but unexamined alternative renders an EIS inadequate, and therefore agencies must study significant alternatives suggested by other agencies or the public. The commenter stated that there is simply no showing of any attempt by the NRC to avoid the consideration of the environmental impacts associated with license renewal projects or to

deprive the public of information related to those impacts by dividing a larger project into smaller units.

NRC Response

The NRC disagrees with one commenter's statement that the 20-year timeframe constitutes a rigging of the purpose or need with regard to NEPA. Rather, the 20-year time frame, which is part of the 40-year renewed license term, is consistent with the AEA. Section 103(c) of the AEA states that "each [operating] license shall be issued for a specified period, as determined by the Commission, depending on the type of activity to be licensed, but not exceeding forty years, and may be renewed upon the expiration of such period." Since the license renewal period consists of the period of extended operation (20 years) and any time remaining on the original license (up to 20 years per 10 CFR 54.17(c)), the license renewal period is consistent with the 40-year license period allowed under the AEA. Furthermore, the Commission considered the timing of an LRA in the promulgation of the license renewal rule. As is discussed in more detail in response to Issue 1, the Commission found that a 20-year application timeframe provided a reasonable and flexible period for licensees to perform informed business planning. The commenter provided no information demonstrating that the NRC established the 20-year application timeframe to rig the purpose or need of NEPA.

As discussed in Issue 7, the commenter argued that the timing of LRAs affects the implementation of NEPA with regard to the consideration of alternatives. The extent of the environmental review is not directly limited by the timing of the application submittal, nor does the NRC staff limit its analysis to the information provided in the environmental report. The NRC applies the rule of reason in conducting its environmental review under NEPA, which may limit the extent of an environmental review to only those environmental impacts that are reasonably foreseeable. This means that, while the environmental review considers various impacts and

alternatives, the NRC is not required to analyze every possible future speculative development. The NRC must complete its NEPA review before the issuance of a renewed license to inform the agency's decision on license renewal. The commenter did not provide information showing that the rule precludes the NRC from considering reasonable alternatives within the licensing action timeframe.

Comment 7.2

A commenter stated that setting the maximum advance date for the submission of a relicensing application at 20 years in effect needlessly restricts the substance of the environmental review by fixing its analysis unreasonably and prematurely from an application's expiration date and the beginning of impact from the proposed Federal action. By setting the application's environmental review at a maximum of 20 years in advance of the impacts from the Federal action, the regulation, as currently written, effectively limits the scope and content of an environmental review, rendering it a speculative venture and a snapshot on the recent past rather than a rigorous and objective assessment of what is reasonably foreseeable.

A commenter stated that it is well established that the scope of the environmental review required in connection with license renewal is appropriately limited and that the limited scope of review has been consistently upheld. The NRC's regulations do require a discussion of alternatives by both the applicant (in the environmental report) and the NRC staff (in the SEIS) in connection with renewal applications. The commenter argued that issuance of a renewed license and initiation of the period of extended operation under the renewed license are part of the same Federal action; there is no additional connected action. Therefore, the potential environmental impacts of the proposed license renewal are considered together, not piecemeal. Another commenter stated that, with regard to Vermont Yankee, the Supreme Court made clear that the concept of alternatives under NEPA must be bounded by some notion of feasibility. As

a result, agencies are not required to consider alternatives that are remote and speculative. Instead, agencies may deal with circumstances as they exist and are likely to exist. While there will always be more data that could be gathered, agencies must have some discretion to draw the line and move forward with decision-making. The Commission's decision to allow licensees to file LRAs in accordance with 10 CFR 54.17(c) and perform its environmental review within that timeframe is a valid exercise of this discretion.

NRC Response

As discussed in response to Issue 7, the extent of the environmental review is not directly limited by the timing of the application submittal, nor does the NRC staff limit its analysis to the information provided in the environmental report. However, the NRC does apply the rule of reason in conducting its environmental review under NEPA, which may limit the extent of an environmental review to only those environmental impacts that are reasonably foreseeable. This means that, while the environmental review considers various impacts and alternatives, the NRC is not required to analyze every possible future or speculative development, particularly those that cannot be reasonably assessed to inform its decision-making process. The NRC must complete the NEPA review before it issues a renewed license to inform the agency's decision on license renewal. The commenter did not provide information showing that the rule precludes the NRC from considering reasonable alternatives within the licensing action timeframe.

Comment 7.3

The petition stated that an application for relicensing submitted 20 years in advance of the current license expiration date cannot reasonably be determined to be sufficiently complete

nor reasonably be represented to rigorously explore and objectively evaluate all reasonable alternatives.

A commenter argued that it is not reasonable to consider that an environmental report based on data that is 20 years old or older can solely constitute the foundation for an adequately studied EIS prepared by the NRC.

This in fact constitutes a violation of NEPA principles, as the harm that NEPA seeks to prevent is complete when the agency makes a decision without sufficiently considering information that NEPA requires be placed before the decision-maker and the public. An application that is filed 20 years in advance of a 2030 expiration date relies on conclusions made 34 years before the requested action and stretches the veracity and validity of the environmental report to an amassing of outdated and meaningless details for the agency's preparation of an EIS. For example, in the Seabrook Unit 1 relicense application, filed in 2010, the preponderance of expert documentation about renewable alternatives is gathered from 2008, effectively freezing the environmental evaluation for the region of interest 22 years from the requested Federal action. It is disingenuous to characterize that data 22 to 34 years out from the requested action as sufficiently complete, as NEPA is established to require. NextEra relies upon the 20-year advance provision in 10 CFR 54.17(c) to truncate its alternative evaluation and justify the omission of more recent documents from experts and expert agencies from 2009 and 2010.

One commenter stated that, as a matter of administrative law, agencies have broad discretion to formulate their own procedures, and the NRC's authority in this respect has been termed particularly great. Similarly, although an agency may alter its rules in light of its accumulated experience in administering them, an agency must offer a reasoned explanation for the change. The petitioners' request for relief provides no such reasonable basis for overturning the NRC's current license renewal framework. Moreover, in the context of

environmental regulations, the Supreme Court has made clear that NEPA does not require agencies to adopt any particular internal decision-making structure and that the only procedural requirements imposed by NEPA are those stated in the plain language of the Act. Therefore, the Court found that NEPA cannot serve as the basis for a substantial revision of the carefully constructed procedural specifications of the Administrative Procedure Act.

Another commenter stated that NEPA does not require agencies to adopt any particular internal decision-making structure. In fact, the Commission has broad discretion to structure its NEPA inquiries. As the Supreme Court made clear in *Vermont Yankee* over 30 years ago, NEPA does not provide any basis for adding procedural requirements beyond the carefully constructed procedural specifications imposed by the Administrative Procedure Act. In *Vermont Yankee*, the Court also explained that the only procedural requirements imposed by NEPA are those stated in the plain language of the Act. The Commission has decided that its safety review of LRAs under the AEA can be initiated with 20 years remaining on the current license, and NEPA cannot compel a different procedural timetable. Accordingly, the petitioners' claim that NEPA requires the NRC to amend 10 CFR 54.17(c) to allow for a later analysis of alternatives finds no support in law.

NRC Response

The NRC disagrees that the environmental reports submitted in support of LRAs must rely on data that are 20 years old or older, and the NRC disagrees that environmental report data forms the sole foundation for EISs. As discussed in response to Issue 2, the "proposed action" before the NRC for license renewal is the "issuance" of a new and superseding license that allows operations for up to 40 years (any remaining time on the initial license plus up to 20 years of extended operation), which is also discussed in response to Issue 2. Therefore, NEPA requires the NRC to perform and complete an environmental review to support the

agency's decision-making process with respect to issuance of the renewed license.

Furthermore, as described in response to Issue 7, the license renewal regulation is consistent with the 40-year license term allowed under the AEA. The environmental report is submitted to support an LRA, and the NRC reviews that environmental report along with the application. The environmental report, therefore, does not need to rely on data that is 20 years old.

The comment that an environmental report forms the sole basis for a license renewal EIS, or that alternatives proffered by the applicant in its environmental report are the only alternatives the NRC staff considers, is also incorrect. The NRC staff undertakes an independent consideration of environmental impacts and documents its consideration in the EIS.

These comments do not provide sufficient justification for the NRC to revise the rule.

Comment 7.4

A commenter provided, as an example, that on June 1, 2010, NextEra submitted its application for relicensing the Seabrook nuclear power plants on the New Hampshire seacoast 20 years in advance of its current 40-year operating license expiration date, identified as March 15, 2030. Given that the proposed relicensing period for which the proposed Federal action is being taken is for the period 2030–2050, Chapter 7 of the Seabrook License Renewal Environmental Report provides a dated, incomplete, and meaningless assessment of energy alternatives and is biased towards the requested relicensing action.

Another commenter stated that, although the petitioners would have one believe that a 20-year renewal window somehow circumvents or frustrates NEPA, it does no such thing. The commenter stated that this assertion is predicated on the misguided belief that somehow there will be dramatic changes in how solar, wind, or other renewables penetrate the grid. The commenter watched the California Altamont wind farm in dismay every day. Consumers and

energy regulators need certainty in the near-, mid-, and long-term horizon. Early nuclear power

plant license renewal injects more certainty, not less, in that process. The commenter concluded that the petitioners convey no demonstrable safety, security, or environmental concerns about Seabrook.

NRC Response

Section III.C of this document contains the NRC's responses to issues related to the Seabrook LRA. One commenter raised several concerns about alternatives in the environmental report or the NRC staff's EIS. As stated in response to Issue 7, the extent of the environmental review is not directly limited by the timing of the application submittal, nor does the NRC staff limit its analysis to the information provided in the environmental report. The NRC staff undertakes an independent consideration of environmental impacts and documents that consideration in its EIS. Furthermore, there is no guarantee that a shorter application timeframe would increase the number of alternatives analyzed in an environmental report. Some alternatives may need more than 10 years of lead time for design and construction. Therefore, allowing applicants to apply for license renewal more than 10 years in advance of a license's expiration date does not unreasonably foreclose alternatives, as suggested by the petitioners and one commenter.

The comments related to Comment Category 7 do not provide a justification for the NRC to revise the rule.

Comment Category 8: General comments.

Comment 8.1

A commenter argued that, to amend the regulations to a 10-year advance time period would lead the way to a safer means of producing energy. Two commenters argued that the petitioners have presented no new information that contradicts the agency positions reflected in the existing license renewal rule or provides sufficient cause to modify those positions.

One of the commenters further stated that the petition fails to provide adequate legal, factual, or policy-based support for the assertions it makes or the relief it seeks. By raising issues the Commission has already considered in promulgating its license renewal rules, the petition ignores the carefully crafted regulatory framework, including 10 CFR 54.17(c), that supports license renewal. Other aspects of the petition address topics that are managed by the Commission's ongoing regulatory oversight processes and regulations, which should not be addressed through changes to the license renewal rules.

NRC Response

These particular comments express general support or opposition to the petition requests. The comments do not provide additional analysis or data that would justify revising the rule.

Comment 8.2

A commenter concluded that the NRC and the industry would significantly benefit by avoiding subsequent adjudicatory challenges if licensees were required to wait to apply for

license renewal no more than 10 years in advance of the license expiration, when trends, studies, agreements, and commercial ventures were more distinctly and discretely developed.

NRC Response

The Commission established the 20-year timeframe to balance the need to collect sufficient operating history data to support an LRA with the needs of a utility to plan for the replacement of retired nuclear plants in the case of an unsuccessful LRA.

The rule, allowing a license period of 40 years, is in accordance with the AEA, which provides for a license period of up to 40 years (see Section 103(c) of the AEA). The rule is not intended to limit the number of adjudicatory challenges. Rather, the NRC regulations are designed to provide appropriate opportunities for hearings to affected parties. Reducing the number of potential adjudicatory challenges is not sufficient justification to revise the regulation.

The comments related to Comment Category 8 do not provide a sufficient justification for the Commission to revise the rule.

V. Determination of Petition

The NRC has reviewed the petition and the public comments and appreciates the concerns raised. For the reasons described in Sections II and III of this document, the NRC is denying the petition under 10 CFR 2.803. The petitioners did not present any new information that would contradict positions taken by the Commission when it established the license renewal rule, nor did the petitioners provide new, significant information to demonstrate that sufficient reason exists to modify the current regulations.

The Commission previously established the earliest date for submission of LRAs after soliciting and considering extensive comments during the 1991 rulemaking for 10 CFR 54.17(c). In its 1991 Statements of Consideration, the Commission determined that a 20-year timeframe was reasonable for licensees to collect sufficient operating history and also sufficient for a utility to plan for replacement of retired nuclear plants in the case of an unsuccessful LRA. The petition did not provide new information to challenge this basis.

Finally, the renewed license period of 40 years is consistent with the AEA, and 10 CFR 54.17(c) does not cause environmental reviews submitted to support LRAs to be in conflict with NEPA. The license renewal environmental review and SEIS consider reasonably foreseeable environmental impacts and alternatives in accordance with the provisions of 10 CFR part 51. The rule change requested by the petitioners would not affect the process the NRC uses to implement NEPA. The petitioners do not provide new information or analysis to demonstrate that the regulations in 10 CFR part 51 are insufficient for the NRC to comply with the requirements of NEPA.

For these reasons, the NRC denies the petitioners' requests for the NRC to modify its requirements related to the LRA period, to suspend license renewal reviews, and to apply a 10-year application timeframe to ongoing and future LRAs.

VI. Availability of Documents

The following table provides information on how to access the documents referenced in this document. For more information on accessing ADAMS, see the ADDRESSES section of this document.

Date	Document	ADAMS Accession Number/<i>Federal Register</i> Citation
December 13, 1991	Nuclear Power Plant License Renewal	56 FR 64943
September 27, 2010	Earth Day Commitment/Friends of the Coast, Beyond Nuclear, Seacoast Anti-Pollution League, C-10 Research and Education Foundation, Pilgrim Watch, and New England Coalition; Notice of Receipt of Petition for Rulemaking	75 FR 59158
January 24, 2011	Commission Memorandum and Order (CLI-11-01), In the Matter of Petition for Rulemaking to Amend 10 CFR § 54.17(c).	ML110250087
January 31, 2012	Public Comment Matrix for Petition for Rulemaking 54-6, License Renewal	ML113540177

Dated at Rockville, Maryland, this 4th day of May, 2012.

For the Nuclear Regulatory Commission.

/RA/

Annette L. Vietti-Cook,
Secretary of the Commission.

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